**Supplemental Table 3.** The number of subjects and results excluded resulting from the different statistical operations and the data used to derive CVIs estimate of tumor markers.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Measurands** | Subjects with results below the limit of quantitation | Numbers of excluded results/subjects | Data used to estimate CVI  | Total %of outliers |
| Homogeneity(Bartlett and Cochran tests) | Dixon-q test |
| Subjects | Replicate(Analyticalhomogeneity) | Results(Withinhomogeneity) | Subjects(Withinhomogeneity) | Subjects(between) | Number of results | Number of subjects |
| AFP, µg/L | All | 4 | 0 | 51 | 4 | 1 | 1513 | 81 | 9.1% |
| M | 0 | 0 | 18 | 2 | 1 | 633 | 34 | 11.0% |
| F | 4 | 0 | 28 | 0 | 2 | 866 | 46 | 7.3% |
| F > 50 years | 0 | 2 | 0 | 0 | 1 | 178 | 9 | 11.0% |
| F < 50 years | 4 | 0 | 7 | 0 | 1 | 707 | 37 | 3.7% |
| HE4, pmol/L | F | 0 | 2 | 42 | 0 | 0 | 971 | 52 | 4.3% |
| F - S | 0 | 3 | 2 | 0 | 0 | 213 | 11 | 2.3% |
| F - NS | 0 | 0 | 36 | 0 | 0 | 761 | 41 | 4.5% |
| F < 50 years | 0 | 4 | 16 | 0 | 0 | 795 | 42 | 2.5% |
| F > 50 years | 0 | 3 | 6 | 0 | 0 | 191 | 10 | 4.5% |
| Cyfra 21-1, µg/L | All | 0 | 3 | 31 | 1 | 0 | 1690 | 89 | 3.1% |
| M | 0 | 0 | 17 | 1 | 0 | 693 | 37 | 5.1% |
| F | 0 | 10 | 8 | 0 | 0 | 996 | 52 | 1.8% |
| F < 50 years | 0 | 3 | 2 | 0 | 0 | 810 | 42 | 0.6% |
| F > 50 years | 0 | 3 | 0 | 0 | 0 | 196 | 10 | 1.5% |
| CEA, µg/L  | All | 0 | 0 | 41 | 1 | 0 | 1685 | 89 | 3.5% |
| All - S | 0 | 2 | 4 | 0 | 0 | 370 | 19 | 1.6% |
| All – NS | 0 | 0 | 32 | 1 | 0 | 1318 | 70 | 3.8% |
| M | 0 | 0 | 14 | 0 | 0 | 717 | 38 | 1.9% |
| F | 0 | 0 | 15 | 1 | 0 | 980 | 51 | 3.5% |
| F < 50 years | 0 | 1 | 12 | 1 | 0 | 782 | 41 | 4.1% |
| F > 50 years | 0 | 0 | 0 | 0 | 1 | 180 | 9 | 10.0% |
| CA 19-9, kIU/L | All | 10 | 4 | 80 | 6 | 0 | 1349 | 74 | 13.1% |
| M | 5 | 5 | 9 | 0 | 0 | 619 | 33 | 2.2% |
| F | 5 | 3 | 72 | 7 | 0 | 705 | 40 | 23.4% |
| F < 50 years | 5 | 4 | 42 | 5 | 0 | 571 | 32 | 20.4% |
| F > 50 years | 0 | 0 | 7 | 0 | 0 | 192 | 10 | 3.5% |
| CA 125, kIU/L | F | 0 | 1 | 47 | 2 | 3 | 895 | 48 | 14.2% |
| F < 50 years | 0 | 0 | 42 | 1 | 3 | 717 | 39 | 14.5% |
| F > 50 | 0 | 1 | 2 | 0 | 0 | 197 | 10 | 1.5% |
| CA 15-3, kIU/L | All | 0 | 0 | 22 | 0 | 0 | 1554 | 81 | 1.4% |
| M | 0 | 0 | 0 | 0 | 0 | 561 | 29 | 0.0% |
| F  | 0 | 0 | 18 | 0 | 0 | 997 | 52 | 1.8% |
| F < 50 years | 0 | 0 | 8 | 0 | 0 | 807 | 42 | 1.0% |
| F > 50 years | 0 | 0 | 0 | 0 | 0 | 200 | 10 | 0.0% |
| **Median (All Subjects) (Min – Max)** |  |  |  |  |  |  |  | **4.3%** **(1.4% - 14.2%)** |

S, smoker; NS. non-smoker